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10/564,920	01/17/2006	Galileo June Adeva Destura	259404	5304

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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/564,920	DESTURA ET AL.	
	Examiner	Art Unit	
	GRANT D. SITTA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2009*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4 and 7-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4 and 7-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2,4,7, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al (5,907,375) hereinafter, Nishikawa in view of Hioki et al (7,109,967) hereinafter, Hioki further in view of Geaghan et al (6,133,906) hereinafter, Geaghan.

3. In regards to claim1, Nishikawa discloses the limitations of a touch sensitive display comprising **(abstract)** a display element having a viewer proximal side and a viewer distal side (fig. 5 (43) front and back) and comprising a pixel array with rows and columns of pixels **(fig. 5 inherent rows and columns of LCD);** and a touch sensitive element disposed on the viewer distal side of the display element **(fig. 5 (42) col. 10, lines 5-10)** and wherein the touch sensitive element comprises :

a first conductive layer comprising a first plurality of conductors **(fig. 5 (52) and col. 11, lines 55-60)**;

a second conductive layer comprising a second plurality of conductors **(fig. 5 (52) and col. 11, lines 55-60)**; and

a pressure sensitive layer **(fig. 5 (53 and 55))** sandwiched between the first conductive

layer and the second conductive layer and operable to modify an electrical conductivity between a first conductor of the first plurality of conductors and a second conductor of the second plurality of conductors in response to a pressure point resulting from an applied pressure **(col. 11, lines 35-67).**

Nishikawa differs from the claimed invention in that Nishikawa does not expressly disclose using an active matrix display.

However, Hioki teaches a system and method for using an active matrix display **(col. 14, line 40 of Hioki)**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the display device of Nishikawa to be an active matrix display device as taught by Hioki in order to provide for a light weight display, with good image quality, faster response time, and sharper display than a passive matrix display.

Nishikawa and Hioki fail to teach

characterized in that:

the first plurality of conductors are row conductors of the touch sensitive element and the second plurality of conductors are column conductors of the touch sensitive element,

each row of pixels shares a respective row buffer amplifier with a touch sensitive element row conductor, and

each column of pixels shares a respective column buffer amplifier with a touch sensitive element column conductor.

However, Geaghan teaches

a first plurality of conductors are row conductors of a touch sensitive element and a second plurality of conductors are column conductors of a touch sensitive element **(fig. 5a Xa-Xd row; and (Ya-Yd)**,

each row of pixels shares a respective row buffer amplifier with a touch sensitive element row conductor **(fig. 5a Xa-Xd row (col. 6, lines 10-30)**, and

each column of pixels shares a respective column buffer amplifier with a touch sensitive element column conductor **(fig. 5a; and (Ya-Yd) (col. 5, lines 10-67)**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the display device of Nishikawa and Hioki to be wherein each pixel shares a respective buffer with a touch sensitive element as taught by Geaghan in order to provide for a integrated sensing and display technology for to accomplish an inherent aligned retrofittable system **(col. 4, lines 4-12)**; and "a system for sensing the position of a stylus proximate a display device employing a matrix of display electrodes. The system includes means for generating stylus-positioning signals from either the stylus or the display electrodes, or alternating between the two, and means for sensing an effect of those signals from the other of the stylus and display electrodes in response to the sensed effect. There are means for resolving the position of the stylus in relation to the display electrodes. The positioning signals may be coupled to the display electrodes directly, capacitively or magnetically. The position of the stylus may be resolved by

determining the relative strengths of the sensed signals, or the relative phase of the sensed signals." **(col. 4, lines 13-24).**

4. In regards to claim 2, Nishikawa teaches a touch sensitive display as claimed in claim 1 wherein the touch sensitive element comprises a plurality of pressure sensitive elements **(abstract and col. 11, lines 35-67)**.

5. In regards to claim 4, Nishikawa as modified by Hioki teaches a touch sensitive display as claimed in claim 2 wherein the plurality of pressure sensitive elements is aligned with pixels **(col. 11, lines 20-56 Nishikawa)** of the active matrix display element **(col. 14, line 40 of Hioki).**

6. In regards to claim 7, Nishikawa discloses the limitations of the pressure sensitive layer **(abstract).**

Nishikawa differs from the claimed invention in that Nishikawa does not expressly disclose using piezoelectric material.

However, Hioki teaches a system and method for using piezoelectric material **(col. 8, lines 37-52 of Hioki) since the piezoelectric material is used to generate an electric potential in response to applied mechanical stress.**

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Nishikawa to include the use of piezoelectric materialin the pressure sensitive layer as taught by Hioki in order to provide electric potential in response to mechanical stress which is beneficial generating high voltages, electronic frequency generation, micorbalances and ultra fine focusing of optical assemblies.

7. In regards to claim 9, Nishikawa teaches a touch sensitive display as claimed in claim 1 further comprising detection means operable to determine a position of the pressure point in response to the change in electrical conductivity between the first conductor and the second conductor **(col. 9, lines 43-67 and col. 11, lines 35-67)**.

8. In regards to claim 15, Nishikawa teaches a portable device comprising a touch sensitive display as claimed in claim 1 **(col. 1, lines 10-11)**.

9. Claims 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Hioki and Geaghan, in view of Bechtle et. al (US 6,535,091) hereinafter, Bechtle.

10. In regards to claim 8, Nishikawa, Hioki and Geaghan disclose a pressure sensitive layer (17) **((abstract) Nishikawa)**

Nishikawa, Hioki and Geaghan differ from the claimed invention in that Nishikawa, Hioki and Geaghan do not disclose wherein the pressure sensitive layer (17) comprises Micro-EiectroMecbanicai (MEM) switches operable to modify the electrical conductivity.

However, Bechtle teaches a system and method for using Micro-EiectroMecbanicai (MEM) switches operable to modify the electrical conductivity. **(fig. 1 col. 1-2, lines 20-10 of Bechtle)**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Nishikawa, Hioki and Geaghan to include in the pressure sensitive layer the use of Micro-EiectroMecbanicai (MEM) switches operable to modify the electrical conductivity as taught by Bechtle because of the added advantages of MEMs of solid stated devices including but not limited to as stated in (col. 1-2, lines 20-10 of Bechtle).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Hioki and Geaghan, in view of Perski et. al (US 6,762,752) hereinafter, Perski

12. In regards to claim 10, Nishikawa, Hioki and Geaghan differs from the claimed invention in that Nishikawa, Hioki and Geaghan do not disclose wherein the detection means is operable to detect a plurality of simultaneous pressure points.

However, Perski teaches a system and method for wherein the detection means is operable to detect a plurality of simultaneous pressure points. **(col. 7, lines 39-60 of Perski)**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Nishikawa, Hioki and Geaghan to include the use of wherein the detection means is operable to detect a plurality of simultaneous pressure points as taught by Perski in order to allow for multiple inputs which allows for easier and fast input of data.

13. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa, Hioki, Geaghan and Perski in view of Applicant Admitted Prior Art, hereinafter referred to as AAPA.

14. In regards to claim 11 Nishikawa, Hioki and Geaghan differ from the claimed invention in that Nishikawa and Hioki do not **expressly** disclose wherein the detection means comprise a signal source for outputting a signal on the first conductor and a sense amplifier coupled to the second conductor for detecting an electrical signal caused by an electrical conductivity being formed between the first conductor and the second conductor in response to the pressure point.

However, AAPA teaches a system and method for wherein the detection means comprise a signal source **(fig. 3 (309))** for outputting a signal on the first conductor and a sense amplifier **(fig. 3 (311))** coupled to the second conductor for detecting an

electrical signal caused by an electrical conductivity being formed between the first conductor and the second conductor in response to the pressure point. **(fig. 3 [0066-0069]).**

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Nishikawa, Hioki and Geaghan to include the use of wherein the detection means comprise a signal source for outputting a signal on the first conductor and a sense amplifier coupled to the second conductor for detecting an electrical signal caused by an electrical conductivity being formed between the first conductor and the second conductor in response to the pressure point as taught by AAPA in order to amplify signals from the pixels to increase the distance a signal can travel and allow for greater space between components.

15. In regards to claim 12, Nishikawa and Hioki as modified by AAPA touch sensitive display as claimed in claim 11 wherein the electrical signal is an electrical charge and the sense amplifier is a charge sensitive amplifier **(fig. 3 (311) AAPA)**.

16. In regards to claim 13, Nishikawa, Hioki and Geaghan as modified by AAPA teaches a touch sensitive display as claimed in claim 11 further comprising a display controller wherein the display controller uses the row (fig. 5a Xa-Xd Geaghan) buffer amplifier (309) operable to provide a display control signal in a display driver configuration and wherein the touch sensitive display is further operable to use the row

buffer amplifier (fig. 5a Xa-Xd Geaghan) as a signal source (309) in a pressure point detection configuration **(fig. 3 (309)) AAPA)**.

17. In regards to claim 14, Nishikawa, Hioki and Geaghan as modified by AAPA teaches a touch sensitive display as claimed in claim 11 further comprising a display controller wherein the display controller uses the column (fig. 5a Ya-Yd Geaghan) buffer amplifier (311) operable to provide a display control signal and (311) as the buffer amplifier (311) in a display driver configuration and wherein the touch sensitive display is further operable to use the row buffer amplifier (fig. 5a Ya-Yd Geaghan) as the sense amplifier (311) in a pressure point detection configuration **(fig. 3 (311) AAPA).**

Response to Arguments

18. Applicant's arguments with respect to claims 1-2, 4, and 7-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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